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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,607	11/03/2005	Tadashi Ishikawa	52433/794	4087

26646 7590 08/26/2008

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EXAMINER	
SHEVIN, MARK L	
ART UNIT	PAPER NUMBER
1793	
MAIL DATE	DELIVERY MODE
08/26/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	**Application No.** 10/533,607	**Applicant(s)** ISHIKAWA ET AL.	
	Examiner Mark L. Shevin	**Art Unit** 1793	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 15 August 2008 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires _____months from the mailing date of the final rejection.
   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *1-5*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See attachment.
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

/Roy King/
Supervisory Patent Examiner, Art Unit 1793

Applicants assert (p. 4, paras 3-4) that the cited '765 patent, Statnikov does not "disclose or suggest the characteristic feature of the present invention as to the average longitudinal axis of crystal grains at a depth of at least 2 mm from the surface of the steel plate in the microstructure adjacent to a fusion line of a weld metal to equalize the grain diameter of the HAZ to a base steel plate".

In response, Statnikov, just like the instant invention, use ultrasonic impact treatment to improve the grain structure and the residual stress patterns in the welded material (col. 5, lines 52-62) with the explicit objective being to "to produce longer wear and increased load bearing capacity." The grain structure is modified as explained again at col. 6, lines 59-67. The internal microstructure of the product is reworked to relax and redistribute residual structural stress patterns caused by welding in the vicinity of weld seams (col. 8, lines 1-20). It is clear then that Statnikov is having a profound beneficial effect on the mechanical properties of the welded parts that are treated by the method of the patent and this is a result of change in microstructure. Statnikov and the instant invention have the same positive steps being performed on the welded workpiece and thus one of ordinary skill would reasonable expect similar microstructural changes on the inside of welded pieces treated by both methods.

Applicants statements with regards to the capabilities of Statnikov are not persuasive as mere attorney arguments or conclusory statements do not take the place of evidence (See e.g., In Re Geisler, 116 F. 3d 1465, 1470 (Fed. Circ. 1997).

Applicants state (p. 5, para 2) that "we cannot analyze a detail UIT process described in the '765 patent" and thus discuss of Statnikov 'by proxy' through the use of his guidelines for the application of ultrasonic impact treatment however a direct comparison between the applied prior art and the instant process would be far more illuminating for establishing patentably distinguishing the instant invention.

Applicants state (p. 6, para 1) that the invention idea regarding the crystal grain size in the material "cannot be conceived by a person skilled in the art based on the '765 patent and such a technical disclosure".

In response, the Examiner notes that it in welding of steel, grain sizes in the heta affected zone will often vary from those seen in other area due to the large heat input and latter self-quenching. Thermal strains combined with plastic strains in the form of energy provided by an ultrasonic tool may then be sufficient to initiate recrystallization, thus allowing one to, in effect, locally change the grain size.

Applicants further state (p. 6, para 3) that "it is well known that there is no relationship between toughness and fatigue strength" and rely on the attached Statnikov document for support. Applicants further state that if the shape of weld joint, stress concentration coefficient, and weld retained stress are the same, the same level of fatigue strength and fatigue life are achieved.

In response, there are relationships between toughness and fatigue strength. First, both will be weakened by hard inclusions and secondly both will improve with grain refinement as shown by Di Schino (A. Di Schino and J. M. Kennym Grain size dependence of the fatigue behavior of a ultrafine-grained AISI 304 stainless steel, Materials Letters, Vol. 57, Issue 21, (July 2003), p. 3182-3185.) and Kojima (A. Kojima et al. Development of High HAZ toughness steel plates for box columns with high heat input welding, Nippon Steel Technical Report, No. 9, (July 2004), P. 39-44.

Di Schino showed that the fatigue resistance of 304 stainless steel showed a strong improvement by grain refinement (Abstract) while Kojima taught that the toughness of welded steel plate may be improved by grain refinement (p. 40, col. 1, para 2).